

Environmental
Restoration
Contractor

ERC Team

Interoffice Memorandum

0052030

044683

Job No. 22192

Written Response Required? NO

Closes CCN: N/A

OU: 200-ZP-1

TSD: N/A

ERA: N/A

Subject Code: 8630

TO: M. A. Buckmaster, H4-80
[REDACTED]

DATE: March 28, 1997

COPIES: See Below

FROM: R. T. Coffman
Onsite Measurement Services
H9-11/372-9373

SUBJECT: **200-ZP-1 PHASE II PERFORMANCE MONITORING, GROUNDWATER RESULTS, FEBRUARY 1997, REV 0**

REFERENCES:

1. BHI, 1996, *On-Site Measurements Quality Assurance Plan*, BHI-00852, REV 0, Bechtel Hanford, Inc., Richland, Washington.
2. BHI, 1995, *Field Screening Procedures*, BHI-EE-05, Bechtel Hanford, Inc., Richland, Washington.
3. BHI, 1995, *200-ZP-1 Field Screening Support Logbook*, EL-1273, Bechtel Hanford, Inc., Richland, Washington.

This data package contains field screening results for groundwater samples analyzed to support 200-ZP-1 IRM Phase II performance monitoring. The Quality Assurance level for this work corresponds to QA-1 as specified in the reference 1 (BHI 1996). Samples collected and analyzed during February 1997 were managed under SAF C97-014, C97-015, and C97-018

Attachment 1 contains Volatile Organic Compound (VOC) results for groundwater samples collected to support the referenced project. The VOC analysis results on 3/3 and 3/4 were generated using the Hewlett - Packard 5890 gas chromatograph with a headspace autosampler, and VOC analysis results on 3/5 were generated using a Photovac 10S plus portable gas chromatograph. Both instruments were operated in accordance with Field Screening Procedure (FSP) 1.1, *Aqueous Headspace Analysis of Volatile Organic Compounds in Water* (BHI 1995). It was necessary to utilize the Photovac 10S plus portable gas chromatograph when on 3/4, the Hewlett Packard 5890 support computer hard drive failed. The computer was replaced and has been restored to normal operation. Samples analyzed using the Photovac were B0JYW7, B0JYW5, B0JY24, and B0JY25. Information concerning operation and calibration of the gas chromatographs is contained in instrument logbooks EL-1329 and EL-1332. Please contact me if you have any questions on this information.

R. T. Coffman, Engineer/Analyst

R. T. Coffman
RTC:rtc



M. A. Buckmaster, H4-80

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Attachments:

Attachment 1. 200-ZP-1 IRM Phase II Performance Monitoring, Groundwater Results,
February 1997

Attachment 2. Sample Chain of Custody Sheets

Copies:

J. R. Freeman-Pollard, H9-12, w/attachment 1 only
B. H. Ford, H0-02, w/attachment 1 only
M.J. Galgoul, H9-12, w/attachment 1 only
I. D. Jacques, H9-10, w/attachment 1 only
R. B. Kerkow, H9-10, w/attachment 1 only
A. M. Hopkins, H9-11, w/attachment 1 only
S. A. Strobe, T7-12, w/attachment 1 only
L. C. Swanson, H9-11, w/attachment 1 only
BHI Document Control, H4-79, w/original attachments

200-ZP-1 Phase II Performance Monitoring
Groundwater Results, February 1997
SAF C97-014, C97-015, and C97-018

Sample Location	HEIS Number	Sample Date	Analysis Date	Chloroform (µg/L)	Carbon Tetrachloride (µg/L)	Trichloroethylene (µg/L)
299-W14-9	BOJY16	2/27/97	3/4/97	41	290	7
Duplicate @ 299-W14-9	BOJY29	2/27/97	3/4/97	40	280	6.8
299-W15-1	BOJRD2	2/24/97	3/4/97	20	2700	12
Duplicate @ 299-W15-1	BOJRD3	2/24/97	3/4/97	46	3000	18
299-W15-4	BOJY17	2/20/97	3/3/97	10	550	<2.0
299-W15-7	BOJRD4	2/20/97	3/3/97	39	2300	17
299-W15-10	BOJRD5	2/26/97	3/4/97	30	3200	14
299-W15-11	BOJXX3	2/20/97	3/3/97	25	2500	6.9
299-W15-15	BOJY21	2/20/97	3/3/97	10	1500	<2.0
299-W15-19	BOJY22	2/20/97	3/3/97	5.6	110	<2.0
299-W15-25	BOJYW1	2/24/97	3/4/97	90	2800	6.6
* 299-W15-30	BOJYW5	2/24/97	3/5/97	49	6500	<2.0
* 299-W15-31A	BOJYW7	2/24/97	3/5/97	37	5700	3.9
299-W15-38	BOJYW2	2/25/97	3/4/97	31	2300	<2.0
299-W15-39	BOJY23	2/27/97	3/4/97	21	1000	<2.0
* 299-W18-1	BOJY24	2/26/97	3/5/97	16	1500	<2.0
* 299-W18-4	BOJY25	2/27/97	3/5/97	<4.0	11	<2.0
299-W18-21	BOJY26	2/20/97	3/3/97	9.8	1100	<2.0
299-W18-23	BOJRF6	2/21/97	3/3/97	3.4	470	<2.0
299-W18-26	BOJRF4	2/21/97	3/3/97	22	220	<2.0
Duplicate @ 299-W18-26	BOJRF5	2/21/97	3/3/97	23	380	<2.0
299-W18-27	BOJY27	2/19/97	3/3/97	2.3	370	<2.0
299-W18-28	BOJY28	2/19/97	3/3/97	13	22	<2.0
299-W18-30	BOJY15	2/3/97	2/12/97	16	1000	2.2
299-W18-32	BOJY30	2/19/97	3/3/97	<2.0	3.8	<2.0
699-39-79	BOJRF3	2/21/97	3/3/97	3.3	250	<2.0

j - Value less than practical quantitation limit

VOA Instrument: Hewlett Packard 5890 GC, Serial # 3235A47685
 Method: Dual DB-VRX columns, ECD/FID, 1 mL headspace injection
 Logbook: 200-ZP-1 Field Logbook, EL-1273, pgs 132 to 134

* VOA Instrument: Photovac 10S Plus GC, Serial # BLDG203
 Method: 5 mL/min HP Air, 11.7 eV lamp, 250 uL headspace injection
 Logbook: 200-ZP-1 Field Logbook, EL-1273, pgs 132 to 134

Analyst:

R.T. Coffman — 4-8-97
 R.T. Coffman

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-16		Page 1 of 1			
Collector RT SICKLE (RFS)			Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field				
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997			Sampling Location 200W			SAF No. C97-018							
Ice Chest No. N/A			Field Logbook No. EFL-1111-6 PAGE #2			Method of Shipment GOV. Vehicle							
Shipped To Mobile Laboratory			Offsite Property No. N/A			Bill of Lading/Air Bill No. N/A							
POSSIBLE SAMPLE HAZARDS/REMARKS			Preservation		HCl to pH <2 Cooled to 4C								
			Type of Container		Gs*								
			No. of Container(s)		1								
Special Handling and/or Storage			Volume		40ml								
SAMPLE ANALYSIS					VOA BY FIELD GC - Chlorinated Hydrocarbon								
Sample No.		Matrix *	Sample Date	Sample Time									
BOJY30		Water	FEB 19 1997	1208	✓								
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt.						Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other	
Relinquished By		Date/Time	Received By		Date/Time								
RT SICKLE (RFS)		2-20-97 1430	R2 Staffler		2-26-97 1420								
Relinquished By		Date/Time	Received By		Date/Time								
R2 Staffler		2-24-97 0930	RB Kerkow		2-24-97 0930								
Relinquished By		Date/Time	Received By		Date/Time								
Relinquished By		Date/Time	Received By		Date/Time								
LABORATORY SECTION		Received By				Title				Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-14		Page 1 of 1											
Collector RT SICKLE (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field											
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018															
Ice Chest No. N/A				Field Logbook No. EFL-1111-6		PAGE 82		Method of Shipment 60L by rail													
Shipped To Mobile Laboratory				Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A															
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C															
				Type of Container		Gs*															
				No. of Container(s)		1															
Special Handling and/or Storage				Volume		40ml															
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon															
Sample No.		Matrix *		Sample Date		Sample Time															
BOJY28		Water		FEB 19 1997		1230		✓													
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS ** Total Activity Exempt.				Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other									
														Relinquished By		Date/Time		Received By		Date/Time	
														RT SICKLE (RFS)		2-20-97 1430		R. J. Sickle		2-20-97 1430	
														R. J. Sickle		2-24-97 0930		R. J. Kessner		2-24-97 0930	
Relinquished By		Date/Time		Received By		Date/Time															
Relinquished By		Date/Time		Received By		Date/Time															
LABORATORY SECTION		Received By		Title						Date/Time											
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By						Date/Time											

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-9		Page 1 of 1							
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field							
Project Designation 200-ZP-1 IRM (Group 2) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-015											
Ice Chest No. SML-503				Field Logbook No. EFL-1111-6		Method of Shipment Hand Carried											
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA											
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C											
				Type of Container		Gs*											
				No. of Container(s)		1											
Special Handling and/or Storage				Volume		40ml											
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon											
Sample No.		Matrix *		Sample Date		Sample Time											
BQJRF4		Water		2-21-97		0932		X									
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPT									
		Relinquished By RT SICKLE (RFS)			Date/Time 2-24-97 0830							Received By R.S. KESSNER			Date/Time 2-24-97 0830		
		Relinquished By R.S. KESSNER			Date/Time 2-24-97 0930							Received By R.B. KESSNER			Date/Time 2-24-97 0930		
		Relinquished By			Date/Time							Received By			Date/Time		
		Relinquished By			Date/Time							Received By			Date/Time		
LABORATORY SECTION		Received By				Title				Date/Time							
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time							

Matrix *

- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-10		Page 1 of 1			
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 2) Groundwater Sampling-FY1997				Sampling Location 200-W		SAF No. C97-015							
Ice Chest No. SML-503				Field Logbook No. EFL-1111-6		Method of Shipment Hand Carried							
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage				Volume		40ml							
SAMPLE ANALYSIS				VOA BY FIELD GC -- Chlorinated Hydrocarbon									
Sample No.		Matrix *		Sample Date		Sample Time							
80JRF5		Water		2-21-97		0932		X					
CHAIN OF POSSESSION		Sign/Print Names											
		Relinquished By		Date/Time		Received By		Date/Time		SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPT		Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other	
		RT SICKLE (RFS)		2-24-97 0830		R.3. Sickle		2-24-97 0830					
		R.3. Sickle		2-24-97 0930		R.3. Sickle		2-24-97 0930					
LABORATORY SECTION		Received By		Title		Date/Time							
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By						Date/Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-8		Page 1 of 1			
Collector RZ STEFFLER (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018							
Ice Chest No. SML-503				Field Logbook No. WHL-N-205 #63		Method of Shipment Hand Carried							
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage				Volume		40ml							
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon							
Sample No.	Matrix *	Sample Date	Sample Time										
B0JY22	Water	2-20-97	1013	X									
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt.							
Relinquished By <i>RZ Steffler</i>		Date/Time <i>2-24-97 0930</i>		Received By <i>RB Kent</i>								Date/Time <i>0930</i>	
RZ STEFFLER (RFS)				RB Kenton								2-24-97	
Relinquished By		Date/Time		Received By								Date/Time	
Relinquished By		Date/Time		Received By								Date/Time	
Relinquished By		Date/Time		Received By		Date/Time		Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other					
LABORATORY SECTION		Received By		Title								Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By								Date/Time	

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-13		Page 1 of 1							
Collector RT SICKLE (RFS)			Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field								
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997			Sampling Location 200W			SAF No. C97-018											
Ice Chest No. N/A			Field Logbook No. EFL-1111-4 PAGE 52			Method of Shipment Cool. Volume											
Shipped To Mobile Laboratory			Offsite Property No. N/A			Bill of Lading/Air Bill No. N/A											
POSSIBLE SAMPLE HAZARDS/REMARKS			Preservation		HCl to pH <2 Cooled to 4C												
			Type of Container		Gs*												
			No. of Container(s)		1												
Special Handling and/or Storage			Volume		40ml												
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbon												
Sample No.	Matrix *	Sample Date	Sample Time														
BOJY27	Water	FEB 19 1997	1304	✓													
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt.						Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other					
														Relinquished By	Date/Time	Received By	Date/Time
														RT SICKLE (RFS)	2-20-97 1430	R. S. Sickle	2-20-97 1430
														R. S. Sickle	2-24-97 0930	R. S. Kunkin	2-24-97 0930
Relinquished By	Date/Time	Received By	Date/Time														
LABORATORY SECTION		Received By				Title						Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By						Date/Time					

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-3		Page 1 of 1			
Collector RF THORNTON (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018							
Ice Chest No. <i>SMC - 281</i>				Field Logbook No. <i>EPL 1112-5</i>		Method of Shipment <i>GOVT USET</i>							
Shipped To Mobile Laboratory				Offsite Property No. <i>N/A</i>		Bill of Lading/Air Bill No. <i>1207</i>							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage				Volume		40ml							
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon							
Sample No.		Matrix *		Sample Date		Sample Time							
B0JY17		Water		2-20-97		1237		X					
CHAIN OF POSSESSION						SPECIAL INSTRUCTIONS							
Sign/Print Names						** Total Activity Exempt.							
Relinquished By <i>RF Thornton</i>		Date/Time 2-20-97 1430		Received By <i>RZ St. Hill</i>		Date/Time 2-20-97 1430							
Relinquished By <i>RZ St. Hill</i>		Date/Time 2-24-97 0930		Received By <i>RB Kerkow</i>		Date/Time 2-24-97 0930							
Relinquished By		Date/Time		Received By		Date/Time							
Relinquished By		Date/Time		Received By		Date/Time							
LABORATORY SECTION		Received By		Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time			

- Matrix *
- S = Soil
 - SE = Sediment
 - SO = Solid
 - SL = Sludge
 - W = Water
 - O = Oil
 - A = Air
 - DS = Drum Solids
 - DL = Drum Liquids
 - T = Tissue
 - WI = Wipe
 - L = Liquid
 - V = Vegetation
 - X = Other

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-8		Page 1 of 1			
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 2) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-015							
Ice Chest No. SML-503				Field Logbook No. EFL-1111-6		Method of Shipment Hand Carried							
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage				Volume		40ml							
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon							
Sample No.		Matrix *		Sample Date		Sample Time							
BOJRF3		Water		2-21-97		1007		X					
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPT				Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other	
Relinquished By RT SICKLE (RFS)		Date/Time 2-24-97 0830		Received By R.S. Still		Date/Time 2-24-97 0830							
Relinquished By R.S. Still		Date/Time 2-24-97 0930		Received By R.B. Kessler		Date/Time 2-24-97 0930							
Relinquished By		Date/Time		Received By		Date/Time							
Relinquished By		Date/Time		Received By		Date/Time							
LABORATORY SECTION		Received By		Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time					

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-11		Page 1 of 1	
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field	
Project Designation 200-ZP-1 IRM (Group 2) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-015					
Ice Chest No. SML-503				Field Logbook No. EFL-1111-6		Method of Shipment Hand Carried					
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C					
				Type of Container		Gs*					
				No. of Container(s)		1					
Special Handling and/or Storage				Volume		40ml					
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chloronated Hydrocarbon					
Sample No.		Matrix *		Sample Date		Sample Time					
B0JRF6		Water		2-21-97		0838		X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPT			
Relinquished By		Date/Time		Received By		Date/Time					
RT SICKLE (RFS)		2-24-97 0830		R2 Staffer R2 Staffer		2-24-97 0830					
Relinquished By		Date/Time		Received By		Date/Time					
R2 Staffer		2-24-97 0930		R2 Kerkow R2 Kerkow		2-24-97 0930					
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
LABORATORY SECTION		Received By		Title				Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time			

Matrix *

S = Soil
 SE = Sediment
 SO = Solid
 SL = Sludge
 W = Water
 O = Oil
 A = Air
 DS = Drum Solids
 DL = Drum Liquids
 T = Tissue
 WI = Wipe
 L = Liquid
 V = Vegetation
 X = Other

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-12		Page 1 of 1											
Collector RZ STEFFLER (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field											
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018															
Ice Chest No. SML-503				Field Logbook No. WHC-N-205-#63		Method of Shipment Hand Carried															
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA															
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C															
				Type of Container		Gs*															
				No. of Container(s)		1															
Special Handling and/or Storage				Volume		40ml															
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon															
Sample No.		Matrix *		Sample Date		Sample Time															
BOJY26		Water		2-20-97		0910		X													
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS ** Total Activity Exempt.				Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other									
														Relinquished By		Date/Time		Received By		Date/Time	
														RZ STEFFLER (RFS)		2-24-97 0930		RB Kessner		2-24-97 0930	
														Relinquished By		Date/Time		Received By		Date/Time	
														Relinquished By		Date/Time		Received By		Date/Time	
Relinquished By		Date/Time		Received By		Date/Time															
LABORATORY SECTION		Received By						Title				Date/Time									
FINAL SAMPLE DISPOSITION		Disposal Method						Disposed By				Date/Time									

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-7		Page 1 of 1	
Collector RF THORNTON (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field	
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018					
Ice Chest No. SIML - 281				Field Logbook No. EPL-1112-5		Method of Shipment BOJY21					
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C					
				Type of Container		Gs*					
				No. of Container(s)		1					
Special Handling and/or Storage				Volume		40ml					
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon					
Sample No.		Matrix *	Sample Date	Sample Time							
BOJY21		Water	2-20-97	1515	X						
CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS					Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other	
Sign/Print Names					** Total Activity Exempt.						
Relinquished By		Date/Time	Received By		Date/Time						
RF THORNTON (RFS)		2-20-97	R2 Staffer R.F. Staff		2-20-97 1430						
R.F. Staff		2-24-97 0930	RB Kerkow		2-24-97 0930						
Relinquished By		Date/Time	Received By		Date/Time						
Relinquished By		Date/Time	Received By		Date/Time						
LABORATORY SECTION		Received By			Title			Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method			Disposed By			Date/Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-014-11		Page 1 of 1			
Collector RZ STEFFLER (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 1) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-014							
Ice Chest No. SM/L - 503				Field Logbook No. WHL - N - 205 #63		Method of Shipment Hand Carried							
Shipped To Mobile Laboratory				Offsite Property No. NA		Bill of Lading/Air Bill No. NA							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage				Volume		40ml							
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chloronated Hydrocarbon							
Sample No.		Matrix *	Sample Date	Sample Time									
B0JRD4		Water	2-20-97	1220	X								
CHAIN OF POSSESSION		Sign/Print Names											
		Relinquished By		Date/Time		Received By		Date/Time		SPECIAL INSTRUCTIONS		Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other	
		RZ STEFFLER (RFS)		2-24-97 0430		R.B. Kerkow		2-24-97 0930					
		Relinquished By		Date/Time		Received By		Date/Time					
		Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time							
LABORATORY SECTION		Received By											
FINAL SAMPLE DISPOSITION		Disposal Method											
		Disposed By											
		Date/Time											

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST										C97-014-13		Page 1 of 1			
Collector RF THORNTON (RFS)				Company Contact J.H. KESSNER				Telephone No. (509) 372-9538				Project Coordinator Stewart, DL				Data Turnaround Field	
Project Designation 200-ZP-1 IRM (Group 1) Groundwater Sampling--FY1997				Sampling Location 200-W				SAF No. C97-014									
Ice Chest No. SM2 - 281				Field Logbook No. EFL-1112-5				Method of Shipment GOUT VEH									
Shipped To Mobile Laboratory				Offsite Property No. N/A				Bill of Lading/Air Bill No. NA									
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C											
				Type of Container		Gs*											
				No. of Container(s)		1											
Special Handling and/or Storage				Volume		40ml											
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chloronated Hydrocarbon											
Sample No.		Matrix *		Sample Date		Sample Time											
BOJXX3		Water		2-20-97		1052		X									
CHAIN OF POSSESSION								SPECIAL INSTRUCTIONS								Matrix *	
Sign/Print Names																	
Relinquished By RF THORNTON (RFS)				Date/Time 2-20-97 1430				Received By R. J. Stiller				Date/Time 2-20-97 1430					
Relinquished By R. J. Stiller				Date/Time 2-24-97 0930				Received By RB Kerkow				Date/Time 2-24-97 0930					
Relinquished By				Date/Time				Received By				Date/Time					
Relinquished By				Date/Time				Received By				Date/Time					
LABORATORY SECTION		Received By										Title		Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method										Disposed By		Date/Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-1		Page <u>1</u> of <u>1</u>		
Collector A. Rizzo				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field		
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018						
Ice Chest No. SML 431				Field Logbook No. LHC-N-205-463		Method of Shipment Hand Delivered						
Shipped To Mobile Laboratory				Offsite Property No.		Bill of Lading/Air Bill No.						
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C						
				Type of Container		Gs*						
				No. of Container(s)		1						
Special Handling and/or Storage				Volume		40ml						
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon						
Sample No.		Matrix *	Sample Date	Sample Time								
BOJY15 ✓		Water	2-3-97	0955	X							
CHAIN OF POSSESSION		Sign/Print Names										
		Relinquished By <i>A. Rizzo</i>		Date/Time <i>2-4-97 1108</i>		Received By <i>R. Steffler</i>		Date/Time <i>2-4-97 1108</i>		SPECIAL INSTRUCTIONS ** Total Activity Exempt.		Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
		Relinquished By <i>R. Steffler</i>		Date/Time <i>2-5-97 0750</i>		Received By <i>R. Steffler</i>		Date/Time <i>2-5-97</i>				
		Relinquished By <i>R. Steffler</i>		Date/Time <i>2-5-97 0750</i>		Received By <i>R. Steffler</i>		Date/Time <i>2-5-97</i>				
		Relinquished By <i>R. Steffler</i>		Date/Time <i>2-5-97 0750</i>		Received By <i>R. Steffler</i>		Date/Time <i>2-5-97</i>				
Relinquished By		Date/Time		Received By		Date/Time						
LABORATORY SECTION		Received By		Title				Date/Time				
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time				

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-9		Page 1 of 1	
Collector RT SICKLE (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field	
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018					
Ice Chest No. NK				Field Logbook No. ERL-1111-6		Method of Shipment Gov Van					
Shipped To Mobile Laboratory				Offsite Property No. NK		Bill of Lading/Air Bill No. NK					
POSSIBLE SAMPLE HAZARDS/REMARKS NA				Preservation		HCl to pH <2 Cooled to 4C					
				Type of Container		Gs*					
				No. of Container(s)		1					
Special Handling and/or Storage maintain @ 4°C				Volume		40ml					
SAMPLE ANALYSIS						VOA BY FIELD GC - Chlorinated Hydrocarbon					
Sample No.		Matrix *	Sample Date	Sample Time							
BOJY23		Water	2-27-97	0946	X						
CHAIN OF POSSESSION		Sign/Print Names									
		Relinquished By <i>[Signature]</i>		Date/Time		Received By <i>RB Kerk</i>		Date/Time 1430		SPECIAL INSTRUCTIONS ** Total Activity Exempt.	
		RT SICKLE (RFS)		2-27-97 1430		RB Kerkow		2-27-97			
		Relinquished By		Date/Time		Received By		Date/Time			
		Relinquished By		Date/Time		Received By		Date/Time			
Relinquished By		Date/Time		Received By		Date/Time					
LABORATORY SECTION		Received By	Title						Date/Time		
FINAL SAMPLE DISPOSITION		Disposal Method	Disposed By						Date/Time		

Matrix *
 S = Soil
 SE = Sediment
 SO = Solid
 SL = Sludge
 W = Water
 O = Oil
 A = Air
 DS = Drum Solids
 DL = Drum Liquids
 T = Tissue
 WI = Wipe
 L = Liquid
 V = Vegetation
 X = Other

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-2		Page 1 of 1		
Collector RT SICKLE (RES)			Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997			Sampling Location 200W			SAF No. C97-018						
Ice Chest No. N/A			Field Logbook No. EFL-1111-6			Method of Shipment Gen. Cont.						
Shipped To Mobile Laboratory			Offsite Property No. N/A			Bill of Lading/Air Bill No. N/A						
POSSIBLE SAMPLE HAZARDS/REMARKS N/A			Preservation		HCl to pH <2 Cooled to 4C							
			Type of Container		Gs*							
			No. of Container(s)		1							
Special Handling and/or Storage Maintain @ 4°C			Volume		40ml							
SAMPLE ANALYSIS					VOA BY FIELD GC - Chlorinated Hydrocarbon							
Sample No.	Matrix *	Sample Date	Sample Time									
B0JY16 ✓	Water	2-27-97	1246	X								
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt.						
Relinquished By RT SICKLE (RES)		Date/Time 2-27-97 1430	Received By RB Kerkow		Date/Time 2-27-97	Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other						
Relinquished By		Date/Time	Received By		Date/Time							
Relinquished By		Date/Time	Received By		Date/Time							
Relinquished By		Date/Time	Received By		Date/Time							
LABORATORY SECTION		Received By		Title				Date/Time				
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time				

PNNL		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-15		Page 1 of 1			
Collector RT SICKLE (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018							
Ice Chest No. N/A				Field Logbook No. EFZ-1111-G		Method of Shipment GCS UAC							
Shipped To Mobile Laboratory				Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A							
POSSIBLE SAMPLE HAZARDS/REMARKS N/A				Preservation	HCl to pH <2 Cooled to 4C								
				Type of Container	Gs*								
				No. of Container(s)	1								
Special Handling and/or Storage Maintain @ 4°C				Volume	40ml								
SAMPLE ANALYSIS					VOA BY FIELD GC - Chlorinated Hydrocarbon								
Sample No.	Matrix *	Sample Date	Sample Time										
BOJY29	Water	2-27-97	1246	Y									
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt.							
Relinquished By RT SICKLE (RFS)	Date/Time 2-27-97 1430	Received By RB Kerker	Date/Time 2-27-97										
Relinquished By	Date/Time	Received By	Date/Time										
Relinquished By	Date/Time	Received By	Date/Time										
Relinquished By	Date/Time	Received By	Date/Time										
LABORATORY SECTION		Received By				Title							
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By							
						Date/Time							
						Date/Time							

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-014-9		Page 1 of 1																	
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field																	
Project Designation 200-ZP-1 IRM (Group 1) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-014																					
Ice Chest No. N/A				Field Logbook No. EFL-1111-6 PAGE 86		Method of Shipment Gov. Vehicle																					
Shipped To Mobile Laboratory				Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A																					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C																					
				Type of Container		Gs*																					
				No. of Container(s)		1																					
Special Handling and/or Storage				Volume		40ml																					
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon																					
Sample No.		Matrix *		Sample Date		Sample Time																					
B0JRD2 ✓		Water		FEB 24 1997		1053																					
CHAIN OF POSSESSION		<div style="display: flex; justify-content: space-between;"> <div> <p>Sign/Print Names</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Relinquished By RT SICKLE (RFS)</td> <td>Date/Time 2-24-97 1340</td> <td>Received By <i>RB Kerkow</i></td> <td>Date/Time 2-24-97 1340</td> </tr> <tr> <td>Relinquished By</td> <td>Date/Time</td> <td>Received By</td> <td>Date/Time</td> </tr> <tr> <td>Relinquished By</td> <td>Date/Time</td> <td>Received By</td> <td>Date/Time</td> </tr> <tr> <td>Relinquished By</td> <td>Date/Time</td> <td>Received By</td> <td>Date/Time</td> </tr> </table> </div> <div> <p>SPECIAL INSTRUCTIONS</p> </div> <div> <p>Matrix *</p> <ul style="list-style-type: none"> S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other </div> </div>										Relinquished By RT SICKLE (RFS)	Date/Time 2-24-97 1340	Received By <i>RB Kerkow</i>	Date/Time 2-24-97 1340	Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
												Relinquished By RT SICKLE (RFS)	Date/Time 2-24-97 1340	Received By <i>RB Kerkow</i>	Date/Time 2-24-97 1340												
												Relinquished By	Date/Time	Received By	Date/Time												
												Relinquished By	Date/Time	Received By	Date/Time												
												Relinquished By	Date/Time	Received By	Date/Time												
LABORATORY SECTION		Received By		Title				Date/Time																			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time																			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-014-10		Page 1 of 1	
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field	
Project Designation 200-ZP-1 IRM (Group 1) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-014					
Ice Chest No. N/A				Field Logbook No. EFL-1111-6 PAGE 86		Method of Shipment GV. Vehicle					
Shipped To Mobile Laboratory				Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C					
				Type of Container		Gs*					
				No. of Container(s)		1					
Special Handling and/or Storage				Volume		40ml					
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon					
Sample No.		Matrix *		Sample Date		Sample Time					
B0JRD3 ✓		Water		FEB 24 1997		1853		✓			
CHAIN OF POSSESSION		Sign/Print Names						SPECIAL INSTRUCTIONS			
Relinquished By RT SICKLE (RFS)		Date/Time 2-24-97 1340		Received By RB Kerkow		Date/Time 2-24-97		<div style="float: right;"> Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other </div>			
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
LABORATORY SECTION		Received By						Title			
FINAL SAMPLE DISPOSITION		Disposal Method						Disposed By			
								Date/Time			
								Date/Time			

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-014-14		Page 1 of 1					
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field					
Project Designation 200-ZP-1 IRM (Group 1) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-014									
Ice Chest No. N/A				Field Logbook No. EFL-1111-6 PAGE 86		Method of Shipment Gov. Vehicle									
Shipped To Mobile Laboratory				Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A									
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C									
				Type of Container		Gs*									
				No. of Container(s)		1									
Special Handling and/or Storage				Volume		40ml									
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon									
Sample No.	Matrix *	Sample Date	Sample Time												
B0JYW1	Water	FEB 24 1997	0942	✓											
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS									
		Relinquished By RT SICKLE (RFS)		Date/Time 1340								Received By RB Kessner		Date/Time 1340	
		Relinquished By [Signature]		Date/Time 2-24-97								Received By RB Kessner		Date/Time 2-24-97	
		Relinquished By		Date/Time								Received By		Date/Time	
		Relinquished By		Date/Time								Received By		Date/Time	
Relinquished By		Date/Time		Received By		Date/Time		<div style="text-align: center;">Matrix *</div> <div style="font-size: small;"> S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other </div>							
Relinquished By		Date/Time		Received By		Date/Time									
Relinquished By		Date/Time		Received By		Date/Time									
Relinquished By		Date/Time		Received By		Date/Time									
Relinquished By		Date/Time		Received By		Date/Time									
LABORATORY SECTION		Received By				Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time					

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-014-15		Page 1 of 1			
Collector HT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 1) Groundwater Sampling--FY1997				Sampling Location 200-W		SAF No. C97-014							
Ice Chest No. <i>N/A</i>				Field Logbook No. <i>EFL-1111-4 PAGE 88</i>		Method of Shipment <i>COV. Velocity</i>							
Shipped To Mobile Laboratory				Offsite Property No. <i>N/A</i>		Bill of Lading/Air Bill No. <i>N/A</i>							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C							
				Type of Container		Gs*							
				No. of Container(s)		1							
Special Handling and/or Storage				Volume		40ml							
SAMPLE ANALYSIS						VOA BY FIELD GC -- Chlorinated Hydrocarbon							
Sample No.		Matrix *		Sample Date		Sample Time							
BOJYW2 ✓		Water		FEB 25 1997		0911							
CHAIN OF POSSESSION		Sign/Print Names											
		Relinquished By		Date/Time		Received By		Date/Time		SPECIAL INSTRUCTIONS		Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other	
		HT SICKLE (RFS)		<i>2-25-97 1430</i>		<i>RB Kerkow</i>		<i>2-27-97</i>					
		Relinquished By		Date/Time		Received By		Date/Time					
		Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time							
LABORATORY SECTION		Received By _____ Title _____ Date/Time _____											
FINAL SAMPLE DISPOSITION		Disposal Method _____ Disposed By _____ Date/Time _____											

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-014-12		Page 1 of 1		
Collector MT SICKLE (RFS)			Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 1) Groundwater Sampling-FY1997			Sampling Location 200-W			SAF No. C97-014						
Ice Chest No. <i>N/A</i>			Field Logbook No. <i>EFH-1111-6 PAGE 89</i>			Method of Shipment <i>GW. Vehicle</i>						
Shipped To Mobile Laboratory			Offsite Property No. <i>N/A</i>			Bill of Lading/Air Bill No. <i>N/A</i>						
POSSIBLE SAMPLE HAZARDS/REMARKS			Preservation		HCl to pH <2 Cooled to 4C							
			Type of Container		Gs*							
			No. of Container(s)		1							
Special Handling and/or Storage			Volume		40ml							
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbon							
Sample No.	Matrix *	Sample Date	Sample Time									
B0JRD5	Water	FEB 26 1997	1036									
CHAIN OF POSSESSION		Sign/Print Names										
		Relinquished By	Date/Time	Received By	Date/Time	SPECIAL INSTRUCTIONS						
		<i>MT SICKLE (RFS)</i>	<i>2-26-97 1220</i>	<i>RB Kerkow</i>	<i>2-26-97</i>							
		Relinquished By	Date/Time	Received By	Date/Time							
		Relinquished By	Date/Time	Received By	Date/Time							
Relinquished By	Date/Time	Received By	Date/Time	<div style="float: right;"> Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other </div>								
Relinquished By	Date/Time	Received By	Date/Time									
Relinquished By	Date/Time	Received By	Date/Time									
Relinquished By	Date/Time	Received By	Date/Time									
LABORATORY SECTION		Received By _____ Title _____ Date/Time _____										
FINAL SAMPLE DISPOSITION		Disposal Method _____ Disposed By _____ Date/Time _____										

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-13		Page 1 of 1			
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 2) Groundwater Sampling-FY1997				Sampling Location 200-W'		SAF No. C97-015							
Ice Chest No. N/A				Field Logbook No. EFL-1111-6 PAGE 60		Method of Shipment Car. Vehicle							
Shipped To Mobile Laboratory				Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	HCl to pH <2 Cooled to 4C								
				Type of Container	Gs*								
				No. of Container(s)	1								
Special Handling and/or Storage				Volume	40ml								
SAMPLE ANALYSIS					VOA BY FIELD GC - Chlorinated Hydrocarbon								
Sample No.	Matrix *	Sample Date	Sample Time										
BOJYW7	Water	FEB 24 1997	1156	✓									
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS *TOTAL ACTIVITY RESULTS NEEDED - EXEMPT 2-20-97							
Relinquished By RT SICKLE (RFS)		Date/Time 2-24-97		Received By RB Kerkow								Date/Time 2-24-97	
Relinquished By		Date/Time		Received By								Date/Time	
Relinquished By		Date/Time		Received By								Date/Time	
Relinquished By		Date/Time		Received By								Date/Time	
LABORATORY SECTION		Received By				Title				Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time			

Matrix *

- S - Soil
- SE - Sediment
- SO - Solid
- SL - Sludge
- W - Water
- O - Oil
- A - Air
- DS - Drum Solids
- DL - Drum Liquids
- T - Tissue
- WI - Wipe
- L - Liquid
- V - Vegetation
- X - Other

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-015-12		Page 1 of 1	
Collector RT SICKLE (RFS)				Company Contact J.H. KESSNER		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field	
Project Designation 200-ZP-1 IRM (Group 2) Groundwater Sampling-FY1997				Sampling Location 200-W		SAF No. C97-015					
Ice Chest No. N/A				Field Logbook No. EFL-1111-6 PAGE 86		Method of Shipment GOD VEHICLE					
Shipped To Mobile Laboratory				Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		HCl to pH <2 Cooled to 4C					
				Type of Container		Gs*					
				No. of Container(s)		1					
Special Handling and/or Storage				Volume		40ml					
SAMPLE ANALYSIS						VOA BY FIELD GC - Chlorinated Hydrocarbon					
Sample No.		Matrix *		Sample Date		Sample Time					
BOJYW5 ✓		Water		FEB 24 1997		1304					
CHAIN OF POSSESSION		Sign/Print Names									
		Relinquished By		Date/Time		Received By		Date/Time		SPECIAL INSTRUCTIONS TOTAL ACTIVITY RESULTS NEEDED EXEMPT 2-20-97	
		RT SICKLE (RFS)		2-24-97		RB Kerkow		2-24-97			
		Relinquished By		Date/Time		Received By		Date/Time			
		Relinquished By		Date/Time		Received By		Date/Time			
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
LABORATORY SECTION		Received By		Title		Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time					

Matrix *
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
T - Tissue
WI - Wipe
L - Liquid
V - Vegetation
X - Other

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-10		Page 1 of 1			
Collector RT SICKLE (RFS)				Company Contact JH Kessner		Telephone No. (509) 372-9538		Project Coordinator Stewart, DL		Data Turnaround Field			
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997				Sampling Location 200W		SAF No. C97-018							
Ice Chest No. N/A				Field Logbook No. EFL-1111-6 PAGE 89		Method of Shipment Gov. Vehicle							
Shipped To Mobile Laboratory				Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A							
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	HCl to pH <2 Cooled to 4C								
				Type of Container	Gs*								
				No. of Container(s)	1								
Special Handling and/or Storage				Volume	40ml								
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbon								
Sample No.	Matrix *	Sample Date	Sample Time										
BQJY24 ✓	Water	FEB 26 1997	1141	✓									
CHAIN OF POSSESSION		Sign/Print Names				SPECIAL INSTRUCTIONS ** Total Activity Exempt.							
		Relinquished By	Date/Time	Received By	Date/Time								
		RT SICKLE (RFS)	2-26-97	RB Kerkow	2-26-97								
		Relinquished By	Date/Time	Received By	Date/Time								
		Relinquished By	Date/Time	Received By	Date/Time								
Relinquished By	Date/Time	Received By	Date/Time	Matrix * S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other									
Relinquished By	Date/Time	Received By	Date/Time										
Relinquished By	Date/Time	Received By	Date/Time										
Relinquished By	Date/Time	Received By	Date/Time										
Relinquished By	Date/Time	Received By	Date/Time										
LABORATORY SECTION		Received By				Title							
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By							
						Date/Time							
						Date/Time							

Pacific Northwest National Laboratory		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						C97-018-11		Page 1 of 1		
Collector RT SICKLE (RFS)			Company Contact JH Kessner		Telephone No. (509) 372-9538			Project Coordinator Stewart, DL		Data Turnaround Field		
Project Designation 200-ZP-1 IRM (Group 3) Groundwater Sampling FY1997			Sampling Location 200W			SAF No. C97-018						
Ice Chest No. NA			Field Logbook No. EFL-1111-6			Method of Shipment Gov Vech.						
Shipped To Mobile Laboratory			Offsite Property No. NA			Bill of Lading/Air Bill No. NA						
POSSIBLE SAMPLE HAZARDS/REMARKS NA			Preservation		HCl to pH <2 Cooled to 4C							
			Type of Container		Gs*							
			No. of Container(s)		1							
Special Handling and/or Storage maintain @ 4°C			Volume		40ml							
SAMPLE ANALYSIS					VOA BY FIELD GC -- Chlorinated Hydrocarbon							
Sample No.		Matrix *	Sample Date		Sample Time							
BOJY25 ✓		Water	2-27-97		1043		X					
CHAIN OF POSSESSION		Sign/Print Names										
		Relinquished By RT SICKLE (RFS)		Date/Time 2-27-97 1430		Received By RB Kerkow		Date/Time 2-27-97		SPECIAL INSTRUCTIONS ** Total Activity Exempt.		Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
		Relinquished By		Date/Time		Received By		Date/Time				
		Relinquished By		Date/Time		Received By		Date/Time				
		Relinquished By		Date/Time		Received By		Date/Time				
LABORATORY SECTION		Received By		Title		Date/Time						
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time						